



Safety Data Sheet according to (EC) No 1907/2006 as amended

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LOCTITE PC 7280

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V003.0

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE PC 7280

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use:

Coating

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.com.

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Acute toxicity	Category 4
H332 Harmful if inhaled. Route of Exposure: Inhalation	
Skin irritation	Category 2
H315 Causes skin irritation.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Respiratory sensitizer	Category 1
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Carcinogenicity	Category 2
H351 Suspected of causing cancer.	
Specific target organ toxicity - single exposure	Category 3
H335 May cause respiratory irritation. Target organ: respiratory tract irritation	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	

2.2. Label elements**Label elements (CLP):****Hazard pictogram:****Contains**

Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene]

4,4'-methylenediphenyl diisocyanate

MDI homopolymer

Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

Signal word:

Danger

Hazard statement:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

Supplemental information

As from 24 August 2023 adequate training is required before industrial or professional use.

Further information: <https://www.feica.eu/PUinfo>

Precautionary statement:

P260 Do not breathe mist/spray.

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

Precautionary statement:

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

Response

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P311 Call a POISON CENTER or doctor.

2.3. Other hazards

Persons suffering from allergic reactions to isocyanates should avoid contact with the product.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Following substances are present in a concentration \geq the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration \geq the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients**3.2. Mixtures**

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Poly[oxy(methyl-1,2-ethanediy)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene] 1 39420-98-9	50- 100 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4, Inhalation, H332 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373		
4,4'- methylenediphenyl diisocyanate 101-68-8 202-966-0 01-2119457014-47	10- 30 %	Carc. 2, H351 Acute Tox. 4, Inhalation, H332 STOT RE 2, H373 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Resp. Sens. 1, H334 Skin Sens. 1, H317	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % Resp. Sens. 1; H334; C >= 0,1 % STOT SE 3; H335; C >= 5 %	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate 905-806-4 01-2119457015-45	1- 7 %	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4, Inhalation, H332 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373	Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % Resp. Sens. 1; H334; C >= 0,1 % STOT SE 3; H335; C >= 5 %	
MDI homopolymer 25686-28-6 500-040-3 500-040-3 01-2119457013-49	1- 7 %	Acute Tox. 4, Inhalation, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, Inhalation, H373	Resp. Sens. 1; H334; C >= 0,1 % Eye Irrit. 2; H319; C >= 5 % Skin Irrit. 2; H315; C >= 5 % STOT SE 3; H335; C >= 5 %	

**For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.**

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation:

Fresh air, oxygen supply, warmth; seek specialist medical attention.

Delayed effects possible after inhalation.

Skin contact:

IF ON SKIN: Wash with plenty of soap and water.

In case of adverse health effects seek medical advice.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In case of fire toxic gases can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

Danger of slipping on spilled product.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Take off contaminated clothing and wash before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Store in a dry place.

Store in sealed original container.

Temperatures between + 10 °C and + 30 °C

Protect from freezing.

7.3. Specific end use(s)

Coating

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational Exposure Limits**Valid for
Germany

Ingredient [Regulated substance]	ppm	mg/m ³	Value type	Short term exposure limit category / Remarks	Regulatory list
4,4'-Methylenediphenyl diisocyanate 101-68-8			Skin designation:	Can be absorbed through the skin.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			STEL (Short Term Exposure Limit) factor:	1 Substance listed with both Peak factor and STEL factor. The Peak factor is supplied with the AGW values.	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8		0,05	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
4,4'-Methylenediphenyl diisocyanate 101-68-8			Short Term Exposure Classification:	Category I: substances for which the localized effect has an assigned OEL or for substances with a sensitizing effect in respiratory passages.	TRGS 900

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
4,4'-methylenediphenyl diisocyanate 101-68-8	aqua (freshwater)		0,0037 mg/l				
4,4'-methylenediphenyl diisocyanate 101-68-8	aqua (intermittent releases)		0,037 mg/l				
4,4'-methylenediphenyl diisocyanate 101-68-8	aqua (marine water)		0,00037 mg/l				
4,4'-methylenediphenyl diisocyanate 101-68-8	sediment (freshwater)				11,7 mg/kg		
4,4'-methylenediphenyl diisocyanate 101-68-8	sediment (freshwater)				1,17 mg/kg		
4,4'-methylenediphenyl diisocyanate 101-68-8	Soil				2,33 mg/kg		
4,4'-methylenediphenyl diisocyanate 101-68-8	Predator						no potential for bioaccumulation
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	aqua (freshwater)		1 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	aqua (marine water)		0,1 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	aqua (intermittent releases)		10 mg/l				
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Soil				1 mg/kg		
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	sewage treatment plant (STP)		1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	aqua (freshwater)		1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	aqua (marine water)		0,1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	Soil				1 mg/kg		
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	sewage treatment plant (STP)		1 mg/l				
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	aqua (intermittent releases)		10 mg/l				

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
4,4'-methylenediphenyl diisocyanate 101-68-8	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	General population	inhalation	Long term exposure - local effects		0,025 mg/m ³	no potential for bioaccumulation
4,4'-methylenediphenyl diisocyanate 101-68-8	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m ³	no potential for bioaccumulation
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m ³	
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	General population	inhalation	Long term exposure - local effects		0,025 mg/m ³	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	Workers	inhalation	Long term exposure - local effects		0,05 mg/m ³	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	Workers	inhalation	Acute/short term exposure - local effects		0,1 mg/m ³	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	General population	inhalation	Long term exposure - local effects		0,025 mg/m ³	
4,4'-Methylenediphenyl diisocyanate, homopolymer 25686-28-6	General population	inhalation	Acute/short term exposure - local effects		0,05 mg/m ³	

Biological Exposure Indices:

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
4,4'-Methylenediphenyl diisocyanate 101-68-8	4,4-Diaminodiphenylmethane	Creatinine in urine	Sampling time: End of shift.	10 µg/g	DE BAT	BAT values reflect the total physical load of workplace substances absorbed through inhalation, dermally, etc. With occupational exposure to MDI, parameter 4,4'-Diaminodiphenylmethane (MDA) in the urine covers all components of a complex MDI mixture, since both monomers and oligomers of the MDI are degraded independent of the exposure path of the monomeric MDI. In contrast, the MAK value for MDI takes into account only the monomer MDI portion.	

8.2. Exposure controls:

Engineering controls:

Use only in well ventilated areas.

Draw off vapors and fumes directly at the point of generation or release. In the case of regular work use bench-mounted extraction equipment.

Respiratory protection:

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; \geq 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; \geq 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Goggles which can be tightly sealed.

Protective eye equipment should conform to EN166.

Skin protection:

Wear protective equipment.

Protective clothing that covers arms and legs.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.

Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	liquid
Delivery form	liquid
Colour	yellowish
Odor	musty, slightly
Melting point	Not applicable, Product is a liquid
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	Not applicable
Auto-ignition temperature	Currently under determination
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Currently under determination
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic (; 25 °C (77 °F))	600 - 1.000 mPa.s Supplier method
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure	Currently under determination
Density (20 °C (68 °F))	1,09 - 1,13 g/cm ³ Supplier method
Relative vapour density:	Currently under determination
Particle characteristics	Not applicable
	Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with water, alcohols, amines.

Reacts with water: Pressure built up in closed vessel (CO₂).

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Humidity

10.5. Incompatible materials

See section reactivity.

10.6. Hazardous decomposition products

At higher temperatures isocyanate may be released.

Carbon dioxide is generated under contact with moisture, leading to pressure in the cans. Danger of cans bursting!

SECTION 11: Toxicological information

General toxicological information:

Persons suffering from allergic reactions to isocyanates should avoid contact with the product.

1.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene] 39420-98-9	LD50	> 10.000 mg/kg	rat	not specified
4,4'-methylenediphenyl diisocyanate 101-68-8	LD50	> 2.000 mg/kg	rat	other guideline:
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	LD50	> 2.000 mg/kg	rat	other guideline:
MDI homopolymer 25686-28-6	LD50	> 5.000 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly[oxy(methyl-1,2-ethanediyl)], a-hydro-w-hydroxy-, polymer with 1,1'-methylenebis[isocyanatobenzene] 39420-98-9	LD50	> 9.400 mg/kg	rabbit	not specified
4,4'-methylenediphenyl diisocyanate 101-68-8	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	LD50	> 9.400 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
MDI homopolymer 25686-28-6	LD50	> 9.400 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No substance data available.
No data available.

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
MDI homopolymer 25686-28-6	irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

No substance data available.
No data available.

Respiratory or skin sensitization:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
4,4'-methylenediphenyl diisocyanate 101-68-8	sensitising	Respiratory sensitisation	guinea pig	not specified
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	sensitising	Skin sensitisation	guinea pig	OECD Guideline 406 (Skin Sensitisation)
MDI homopolymer 25686-28-6	sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
MDI homopolymer 25686-28-6	sensitising	Respiratory sensitisation	rat	not specified

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		EU Method B.13/14 (Mutagenicity)
MDI homopolymer 25686-28-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
4,4'-methylenediphenyl diisocyanate 101-68-8	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
MDI homopolymer 25686-28-6	negative	inhalation: aerosol		rat	OECD Guideline 489 (In Vivo Mammalian Alkaline Comet Assay)
MDI homopolymer 25686-28-6	negative	inhalation		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Carcinogenicity

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	carcinogenic	inhalation: aerosol	2 y 6 h/d	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Reaction mass of 4,4'- Methylenediphenyl diisocyanate and o-(p- isocyanatobenzyl)phenyl isocyanate	carcinogenic	inhalation: aerosol	2 y 6 h/d	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
MDI homopolymer 25686-28-6	carcinogenic	inhalation: aerosol	2 y 6 h/d, 5 d/w	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
MDI homopolymer 25686-28-6	NOAEL P 2.03 mg/m3 NOAEL F1 2.03 mg/m3	screening	inhalation	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

STOT-single exposure:

May cause respiratory irritation.

No substance data available.

STOT-repeated exposure::

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	NOAEL 0,0002 mg/l	inhalation: aerosol	main: 2 y; satellite:1 y 6 h/d; 5 d/w	rat	OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
MDI homopolymer 25686-28-6	NOAEL 0.2 mg/m3	inhalation: aerosol	2 y 6 h/d; 5 d/w	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	LL50	> 100 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	LC50	Toxicity > Water solubility	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
MDI homopolymer 25686-28-6	LC50	> 1.000 mg/l	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	EC50	> 100 mg/l	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	EC50	Toxicity > Water solubility	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
MDI homopolymer 25686-28-6	EC50	129,7 mg/l	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'- methylenediphenyl diisocyanate 101-68-8	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	NOEC	Toxicity > Water solubility	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
MDI homopolymer 25686-28-6	NOEC	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	EL50	> 100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
4,4'-methylenediphenyl diisocyanate 101-68-8	NOELR	100 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	EC50	Toxicity > Water solubility	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	NOELR	Toxicity > Water solubility	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
MDI homopolymer 25686-28-6	EC50	> 1.640 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
MDI homopolymer 25686-28-6	NOEC	1.640 mg/l	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)

Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	EC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	EC50	Toxicity > Water solubility	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
MDI homopolymer 25686-28-6	EC50	> 100 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	not inherently biodegradable	aerobic	0 %	28 day	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))
MDI homopolymer 25686-28-6	not readily biodegradable.	aerobic	> 0 - < 60 %	28 d	OECD 301 A - F
MDI homopolymer 25686-28-6	not inherently biodegradable	aerobic	0 %	28 d	OECD Guideline 302 C (Inherent Biodegradability: Modified MITI Test (II))

12.3. Bioaccumulative potential

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)
MDI homopolymer 25686-28-6	> 92 - 200	28 d		Cyprinus carpio	OECD Guideline 305 E (Bioaccumulation: Flow-through Fish Test)

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
4,4'-methylenediphenyl diisocyanate 101-68-8	4,51	22 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	4,51	22 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
4,4'-methylenediphenyl diisocyanate 101-68-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Reaction mass of 4,4'-Methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
MDI homopolymer 25686-28-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

08 05 01

SECTION 14: Transport information

14.1. UN number or ID number

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.2. UN proper shipping name

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.3. Transport hazard class(es)

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.4. Packing group

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
IATA	Not dangerous goods

14.5. Environmental hazards

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EU)	0 %

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

National regulations/information (Germany):

WGK: WGK 1: slightly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Classification according to AwSV, Annex 1 (5.2)

BG regulations, rules, infos: BG data sheet: BGI 524 Hazardous substances: polyurethane production and processing / isocyanates (M 044)

Storage class according to TRGS 510: 10

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

ED: Substance identified as having endocrine disrupting properties
EU OEL: Substance with a Union workplace exposure limit
EU EXPLD 1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2: Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC: Substance of very high concern (REACH Candidate List)
PBT: Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB: Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB: Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

This Safety Data Sheet has been produced for sales from Henkel to parties purchasing from Henkel, is based on Regulation (EC) No 1907/2006 and provides information in accordance with applicable regulations of the European Union only. In that respect, no statement, warranty or representation of any kind is given as to compliance with any statutory laws or regulations of any other jurisdiction or territory other than the European Union. When exporting to territories other than the European Union, please consult with the respective Safety Data Sheet of the concerned territory to ensure compliance or liaise with Henkel's Product Safety and Regulatory Affairs Department (SDSinfo.Adhesive@henkel.com) prior to export to other territories than the European Union.

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Dear Customer,
Henkel is committed to creating a sustainable future by promoting opportunities along the entire value chain. If you would like to contribute by switching from a paper to the electronic version of SDS, please contact the local Customer Service representative. We recommend to use a non-personal email address (e.g. SDS@your_company.com).

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.



Safety Data Sheet according to (EC) No 1907/2006 as amended Page 1 of 14

LOCTITE PC 7280

SDS No. : 572928
V003.0

Revision: 07.12.2022

printing date: 24.12.2022

Replaces version from: 02.12.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE PC 7280

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use:

Coating

1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or www.henkel-adhesives.com.

1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

Acute toxicity	Category 4
H302 Harmful if swallowed.	
Route of Exposure: Oral	
Skin corrosion	Category 1B
H314 Causes severe skin burns and eye damage.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - repeated exposure	Category 2
H373 May cause damage to organs through prolonged or repeated exposure.	
Acute hazards to the aquatic environment	Category 1
H400 Very toxic to aquatic life.	
Chronic hazards to the aquatic environment	Category 1
H410 Very toxic to aquatic life with long lasting effects.	

2.2. Label elements

Label elements (CLP):

Hazard pictogram:**Contains**

Poly(oxypropylene)diamine

Di-(Methylthio) Toluendiamine
diethylmethylbenzenediamine**Signal word:**

Danger

Hazard statement:

H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statement:
Prevention**

P260 Do not breathe mist/vapours.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statement:
Response**

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor.

**Precautionary statement:
Disposal**

P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards

Following substances are present in a concentration \geq the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration \geq the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Poly(oxypropylene)diamine 9046-10-0	60- 70 %	Acute Tox. 4, Oral, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412		
Di-(Methylthio) Toluendiamine 106264-79-3 403-240-8, 4032408 01-0000015292-76	10- 20 %	Aquatic Chronic 1, H410 Aquatic Acute 1, H400 Skin Sens. 1, H317 Acute Tox. 4, Oral, H302	M acute = 1 M chronic = 1	
diethylmethylbenzenediamine 68479-98-1 270-877-4 01-2119486805-25	5- 10 %	Acute Tox. 4, Oral, H302 STOT RE 2, H373 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Acute Tox. 4, Dermal, H312	M acute = 1 M chronic = 1	

**For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.**

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation:

Fresh air. Delayed effects possible after inhalation. Inform emergency services.

Skin contact:

Rinse immediately with plenty of running water (for 10 minutes). Remove all contaminated clothing and apply bandage. Seek medical advice.

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.

Ingestion:

Rinse the mouth. Drink plenty of water. Immediate medical advice necessary.
Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

SKIN: Rash, Urticaria.

INGESTION: Nausea, vomiting, diarrhea, abdominal pain.

Causes burns.

EYE: Irritation, conjunctivitis.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media**Suitable extinguishing media:**

All common extinguishing agents are suitable.

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In case of fire toxic gases can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment.

Avoid contact with skin and eyes.

Keep unprotected persons away.

Danger of slipping on spilled product.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

Inform authorities in the event of product spillage to water courses or sewage systems.

6.3. Methods and material for containment and cleaning up

Remove with liquid-absorbing material (sand, peat, sawdust).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Hygiene measures:

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Store in a dry place.

Store in sealed original container.

Temperatures between + 10 °C and + 30 °C

Protect from freezing.

7.3. Specific end use(s)

Coating

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational Exposure Limits**

Valid for

Germany

None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	aqua (freshwater)		0,0087 mg/l				
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	aqua (marine water)		0,00087 mg/l				
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	sediment (freshwater)				0,2 mg/kg		
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Soil				0,16 mg/kg		
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	sewage treatment plant (STP)		3,2 mg/l				
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	aqua (intermittent releases)		0,011 mg/l				
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	sediment (marine water)				0,02 mg/kg		
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	oral				3,3 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	aqua (freshwater)		0,001 mg/l				
Diethylmethylbenzenediamine 68479-98-1	sediment (freshwater)				0,029 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	aqua (marine water)		0,0001 mg/l				
Diethylmethylbenzenediamine 68479-98-1	sediment (marine water)				0,0029 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	Soil				0,0056 mg/kg		
Diethylmethylbenzenediamine 68479-98-1	sewage treatment plant (STP)		17 mg/l				
Diethylmethylbenzenediamine 68479-98-1	aqua (intermittent releases)		0,005 mg/l				
Diethylmethylbenzenediamine 68479-98-1	oral				2 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Workers	dermal	Long term exposure - systemic effects		0,39 mg/kg	
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Workers	inhalation	Acute/short term exposure - systemic effects		11,8 mg/m ³	
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	Workers	inhalation	Long term exposure - systemic effects		3,4 mg/m ³	
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	General population	oral	Long term exposure - systemic effects		0,24 mg/kg	
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	General population	dermal	Long term exposure - systemic effects		0,24 mg/kg	
2(or 4)-Methyl-4,6(or 2,6)-bis(methylthio)-1,3-benzenediamine 106264-79-3	General population	inhalation	Long term exposure - systemic effects		0,94 mg/m ³	
Diethylmethylbenzenediamine 68479-98-1	Workers	inhalation	Long term exposure - systemic effects		0,13 mg/m ³	
Diethylmethylbenzenediamine 68479-98-1	Workers	dermal	Long term exposure - systemic effects		1 mg/kg	
Diethylmethylbenzenediamine 68479-98-1	General population	oral	Long term exposure - systemic effects		0,1 mg/kg	
Diethylmethylbenzenediamine 68479-98-1	General population	dermal	Long term exposure - systemic effects		1 mg/kg	
Diethylmethylbenzenediamine 68479-98-1	General population	inhalation	Long term exposure - systemic effects		0,1 mg/m ³	

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; \geq 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; \geq 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Goggles which can be tightly sealed.
Protective eye equipment should conform to EN166.

Skin protection:
Wear protective equipment.
Protective clothing that covers arms and legs.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
Use only personal protection that's CE-labelled according to Directive 89/686/EEC (Europe) or to Regulation No. 819 of 19 August 1994 (Norway), or equivalent.
The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions.
Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Delivery form	liquid
Colour	black
Odor	amine-like
Melting point	Not applicable, Product is a liquid
Initial boiling point	Currently under determination
Flammability	Currently under determination
Explosive limits	Currently under determination
Flash point	Currently under determination
Auto-ignition temperature	Currently under determination
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Currently under determination
Viscosity (kinematic)	Currently under determination
Viscosity, dynamic (; 25 °C (77 °F))	500 - 900 mPa.s Supplier method
Solubility (qualitative)	Currently under determination
Partition coefficient: n-octanol/water	Not applicable Mixture
Vapour pressure	Currently under determination
Density (20 °C (68 °F))	1,02 - 1,06 g/cm ³ no method
Relative vapour density:	Currently under determination
Particle characteristics	Not applicable Product is a liquid

9.2. Other information

Other information not applicable for this product

SECTION 10: Stability and reactivity

10.1. Reactivity

None if used for intended purpose.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

No decomposition if used according to specifications.

SECTION 11: Toxicological information**General toxicological information:**

Persons suffering from allergic reactions to amines should avoid contact with the product.

1.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute oral toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly(oxypropylene)diamine 9046-10-0	LD50	475 mg/kg	rat	not specified
Di-(Methylthio) Toluendiamine 106264-79-3	LD50	1.515 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
diethylmethylbenzenediamine 68479-98-1	LD50	738 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Poly(oxypropylene)diamine 9046-10-0	LD50	2.085,8 mg/kg	rabbit	not specified
Di-(Methylthio) Toluendiamine 106264-79-3	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

Acute inhalative toxicity:

No data available.

Skin corrosion/irritation:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
diethylmethylbenzenediamine 68479-98-1	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

No data available.

Respiratory or skin sensitization:

No data available.

Germ cell mutagenicity:

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
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Carcinogenicity

No data available.

Reproductive toxicity:

No data available.

STOT-single exposure:

No data available.

STOT-repeated exposure::

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
diethylmethylbenzenedia mine 68479-98-1	NOAEL 8 mg/kg	oral: feed	90 days daily	rat	EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard:

No data available.

11.2 Information on other hazards

not applicable

SECTION 12: Ecological information

General ecological information:

Do not empty into drains, soil or bodies of water.

12.1. Toxicity

Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly(oxypropylene)diamine 9046-10-0	LC50	> 15 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Di-(Methylthio) Toluendiamine 106264-79-3	LC50	7,3 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
diethylmethylbenzenediamine 68479-98-1	LC50	> 106 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)

Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly(oxypropylene)diamine 9046-10-0	EC50	15 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Di-(Methylthio) Toluendiamine 106264-79-3	EC50	1,1 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
diethylmethylbenzenediamine 68479-98-1	EC50	0,5 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Di-(Methylthio) Toluendiamine 106264-79-3	NOEC	0,087 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly(oxypropylene)diamine 9046-10-0	EC50	15 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Poly(oxypropylene)diamine 9046-10-0	EC10	1,4 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Di-(Methylthio) Toluendiamine 106264-79-3	EC50	> 3,3 - < 4,8 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Di-(Methylthio) Toluendiamine 106264-79-3	NOEC	1,9 mg/l	72 h	not specified	not specified

Toxicity to microorganisms

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Poly(oxypropylene)diamine 9046-10-0	EC50	750 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
diethylmethylbenzenediamine 68479-98-1	EC10	170 mg/l	24 h		not specified

12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Poly(oxypropylene)diamine 9046-10-0	not readily biodegradable.	aerobic	0 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Di-(Methylthio) Toluendiamine 106264-79-3	not readily biodegradable.	aerobic	2 %	28 day	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
diethylmethylbenzenediamine 68479-98-1		aerobic	0 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

Hazardous substances CAS-No.	LogPow	Temperature	Method
Poly(oxypropylene)diamine 9046-10-0	1,34	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Di-(Methylthio) Toluendiamine 106264-79-3	2,895	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Di-(Methylthio) Toluendiamine 106264-79-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
diethylmethylbenzenediamine 68479-98-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

not applicable

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

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SECTION 14: Transport information

14.1. UN number or ID number

ADR	2735
RID	2735
ADN	2735
IMDG	2735
IATA	2735

14.2. UN proper shipping name

ADR	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxy propylene diamine)
RID	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxy propylene diamine)
ADN	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxy propylene diamine)
IMDG	AMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxy propylene diamine, Diethyl methyl benzene diamine)
IATA	Amines, liquid, corrosive, n.o.s. (Polyoxy propylene diamine)

14.3. Transport hazard class(es)

ADR	8
RID	8
ADN	8
IMDG	8
IATA	8

14.4. Packing group

ADR	III
RID	III
ADN	III
IMDG	III
IATA	III

14.5. Environmental hazards

ADR	Environmentally Hazardous
RID	Environmentally Hazardous
ADN	Environmentally Hazardous
IMDG	Marine pollutant
IATA	not applicable

14.6. Special precautions for user

ADR	not applicable Tunnelcode: (E)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content	0 %

(2010/75/EU)

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

National regulations/information (Germany):

WGK: WGK 3: highly hazardous to water (Ordinance on facilities for handling substances that are hazardous to water (AwSV))
Classification according to AwSV, Annex 1 (5.2)

Storage class according to TRGS 510: 8B

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

Further information:

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